

Preliminary Amendment
Attorney Docket No. 043082

Amendments to the Specification:

Please replace the paragraph beginning at page 9, line 26, with the following rewritten paragraph:

[0029] Here explanation is made, referring to Fig.4, of the force sensor part 23L, for the force sensor parts 23L, 23R are constituted symmetrically with respect to the left and right. The force sensor part 23L comprises four force sensors 36a, 36b, 36c, and 36d, made up by horizontally divided, namely, two divisions in x direction and two divisions in y direction at the bottom of the sole plate 35 which is the bottom face of a foot portion 14L. Since each of the force sensors 36a, 36b, 36c, and 36d is of identical structure, explanation is made below of the force sensor 36a. The force sensor 36a is a 3-axis force sensor provided between a sole 37 above and a sole 38 below, and detects the force received by the lower sole 38.

Please replace the paragraph beginning at page 12, line 3, with the following rewritten paragraph:

[0035] The biped walking robot 10 in accordance with the embodiment of the present invention is constituted as described above, and its walking motion is conducted by the flowchart shown in Fig.6 as described below. In Fig.6 at step ST1, the gait forming part 24 forms gait data based on the input required motion ($J = J$), and outputs to the compensation part 32 of the walk controller 30. And at step ST2, the force sensor parts 23L, 23R provided to both foot portions 14L, 14R detect forces respectively, and output to the hexaxial force computing part 32a and the contact detection part 32b of the compensation part 32. And at step ST3, the angle measurement unit 31 measures the state vector φ of respective joint portions 15L, 15R to 20L, 20R, and outputs to the compensation part 32.

Please replace the paragraph beginning at page 14, line 13, with the following rewritten paragraph:

[0045] Thus, with respect to the foot portion 14L, if contact force comes from left-side as shown in Fig.8(A), or it comes obliquely from the lower side as shown in Fig.8(B), or further if it comes in the plurality of directions from left-side and obliquely from the lower side as shown in Fig.8(C),

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the force sensors 36a and/or 36d are acting as touch sensors, respectively, thereby the contact detection is conducted by the contact detection part 32b.